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EXAMINER	
RAMPURIA, SATISH	

ART UNIT	PAPER NUMBER
2191	

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/038,136	CLEWIS ET AL.	
	Examiner	Art Unit	
	Satish S. Rampuria	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the Amendment filed on March 21, 2006.

2. The objection to specification due to title not being descriptive is withdrawn in view of Applicants amendment to the title filed on Dec 22, 2005.

3. The rejections under double patenting to claim 1, 4, 8 is still stand rejected.

4. Claims amended by the Applicants: 1, 8, 12 and 17.

5. Claims pending in the application: 1-20.

Response to Arguments

6. It appears that the limitation "tree" (amendment filed on Nov. 11, 2004. Since, then the limitation "tree" is kept in the claims) in all of the claims should have been the limitation "graph" as originally (filed on Oct. 26, 2001) submitted. It was never brought to Examiner's attention that the limitation "graph" have been amended to the limitation "tree". Therefore, Examiner suggests that the limitation "tree" should be replaced with the limitation "graph" from all of the claims as supported by the specification and as originally filed. Further, the limitation "the directed non-cyclic graph" on line 5-6 of the originally filed claim 1 has been deleted without amending to the claim 1 and should be added.

7. Applicant's arguments with respect to claim 1, 8, 12 and 17 have been considered but they are persuasive.

In the remarks, the applicant has argued that:

Applicants kept arguing Tenev fails to teach the limitations a binding system for binding a **tree**... "that looks for matching node patterns", "...that identify distinguishing node attributes",

and "...that at least one of analyze and process a particular node" as amended in the independent claims 1, 8, 12 and 17.

Examiner's response:

In response to Applicants arguments, firstly, the limitation "tree" is not in supported by the specification. The limitation "tree" is considered as "graph" as originally filed. Secondly, Tenev disclose the node-link data structure where the system deletes/remove nodes from not being used, see FIG. 11 and related discussion. Tenev discloses the limitation matching node patterns see col. 12, lines 57-60, FIG. 7 and related discussion. Further, Tenev discloses the identify distinguishing node attributes that at least one of analyze and process a particular node see col. 4 lines 5-20. As previously described in the office action. Therefore, the rejection is proper and maintained herein.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Double patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 4, 8 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3, 4, and 15 of US Patent No. 6,922,692, (Application No. 10/039725) (hereinafter called '692 Patent) in view of US Patent No. 6,654,761 to Tenev et al. (hereinafter called Tenev).

This is an obviousness-type double patenting rejection.

The correspondence between the patented claims and the instant claims are as follows:

Instant Claim	'692 Patent Claim
1. A graph walking system, comprising: **a binding system for binding a graph observer with a graph, for binding node patterns to node observers to generate at least one node pairing, and for binding the graph observer to at least one node pattern-node observer pairing;** **graph walking logic for systematically walking through nodes within the directed non-cyclic graph; a pattern testing system for determining if an encountered node matches one of the node patterns**; an event manager for generating an encountered event when one of the node observers is bound to a	1. A graph walking system, comprising: **a binding system for binding a graph observer with a data graph, for binding node patterns to node observers to generate at least one node pattern/node observer pair, and for binding the data graph observer to at least one node pattern/node observer pairing**, and wherein each node pattern includes a computed set of target sub-node patterns; a node relationship graph (NRG), wherein each node in the NRG corresponds to at least one node in the data graph, and wherein each node in the NRG includes a computed set of valid sub-node patterns; **graph walking logic for systematically walking through nodes in the data graph and corresponding nodes in the NRG; and a pattern testing system that determines if the set of target sub-node patterns for a node pattern matches the set of valid sub-node patterns for a**

matching node pattern; and **a pruning system that can deactivate the graph observer with respect to sub-nodes of the encountered node if a bound node observer determines that there is no interest in the sub-nodes.**	**corresponding NRG node when a node is encountered in the data graph.** 3. The graph walking system of claim 1, further comprising a graph observer **pruning system for deactivating a graph observer for sub-node processing when no matches occur between target sub-node patterns and valid sub-node patterns for an encountered node.**
4. The graph walking system of claim 1, **wherein the pruning system can reactivate a deactivated graph observer after the sub-nodes of the encountered node have been walked.**	4. The graph walking system of claim 3, **wherein the graph walking logic includes a sub-node pruning system for disabling the graph walking logic when all graph observers for a set of sub-node have been deactivated.**
8. **A system for analyzing a graph of hierarchical data, comprising**: a system for **binding a plurality of graph observers to a graph, wherein each graph observer is further bound to a set of node patterns and a set of node observers;**	14. **A method for analyzing a graph of hierarchical data, comprising** the steps of: **binding a plurality of graph observers to the graph, wherein each graph observer is further bound to a set of inputted node patterns and a set of inputted node observers**; computing a set of target sub-node

	patterns for each inputted node pattern; providing a node relationship graph (NRG) for the graph, wherein each node in the NRG
graph walking logic for systematically walking through nodes within the graph; a first pruning system that can be instructed by a node observer bound with an associated graph observer to	corresponds to a node in the graph; **computing a set of valid sub-node patterns for each node in the NRG; systematically walking through nodes within the graph**; testing to determine if the target sub-node patterns for a node pattern matches the valid sub-node patterns for a corresponding NRG node when a node is encountered in the graph; and
deactivate the associated graph observer until a set of sub-nodes for the encountered node has been walked; and	**deactivating an identified graph observer for sub-nodes of an encountered node if none of the target sub-node patterns associated with node patterns bound to the identified graph observer match valid sub-node patterns.**
a second pruning system that can instruct the graph walking logic not to walk the set of sub-nodes for the encountered node.	15. The method of claim 14, comprising the further step of reactivating the **identified graph observer after the sub-nodes of the encountered node have been walked.**

More specifically,

10. Claims 1, 4, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over '692 Patent in view of US Patent No. 6,654,761 to Tenev et al. (hereinafter called Tenev) and further in view of US Patent No. 6092044 to Baker et al. (hereinafter called Baker).

Per claim 1:

This claim recites a graph walking system, comprising: a binding system for binding a graph observer with a graph, for binding node patterns to node observers to generate at least one node pairing, and for binding the graph observer to at least one node pattern-node observer pairing; graph walking logic for systematically walking through nodes within the directed non-cyclic graph; a pattern testing system for determining if an encountered node matches one of the node patterns; and a pruning system that can deactivate the graph observer with respect to sub-nodes of the encountered node if a bound node observer determines that there is no interest in the sub-nodes which steps are recited in the claim 3 of '692 Patent. '692 Patent does not recite other features recited as follows in the Instant claim. But it would have been obvious for one of the ordinary skill in the art to modify these features as modified by Tenev and further by Baker.

The features as follows does not recited on claim 1 of '692 Patent.

However, Tenev discloses in an analogous computer system an event manager for generating an encountered event when one of the node observers is bound to a matching node pattern (col. 8, lines 20-23 "Structure 250... every node and link in memory to be specified by an

ID... be validated in constant time and nearly always created in constant time" and col. 12, lines 54-55 "The test in box 384 compares the last node ID with the saved top node ID").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method validating the node and links by comparing the node ID as taught by Tenev in corresponding to graph walking logic, a pattern testing system, and a pruning system as taught by '692 Patent. The modification would be obvious because of one of ordinary skill in the art would be motivated to compare/map the node as walking through the nodes to make sure the node is else remove from the memory as suggested by Tenev (col. 3, lines 15-30).

Neither '692 Patent nor Tenev discloses deactivate the tree observer... without deleting the sub-nodes.

However, Baker discloses in an analogous computer system deactivate the tree observer... without deleting the sub-nodes (col. 11 to 12, lines 51-67 and 1-2 "the node-processing procedure determines whether the score of any state of the node exceeds the pruning threshold (step 1110). When a score exceeds the pruning threshold, the likelihood that the word represented by the score was spoken is deemed to be too small to merit further consideration. For this reason, the procedure prunes the lexical tree by deactivating any state having a score that exceeds the pruning threshold (step 1115). If every state of the node is deactivated, then the node-processing procedure also deactivates the node. The node-processing procedure may deactivate a node or state by deleting a record associated with the node or state, or by indicating in the record that the node or state is inactive. Similarly, the node-processing procedure may

activate a node or state by creating a record and associating the record with the node or state, or by indicating in an existing record that the node or state is active. The procedure may use a dynamic pruning threshold that accounts for variations in the average or best score in the lexical tree at any given time").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of deactivating the node by deleting or indicating as an inactive node or state as taught by Baker in corresponding to graph walking logic, a pattern testing system, and a pruning system as taught by the combination system of '692 Patent and Tenev. The modification would be obvious because of one of ordinary skill in the art would be motivated to mark as an deactivate node if it is not being to used in optimization process in speech recognition system as suggested by Baker (col. 1, lines 31-46).

Per claim 4:

This claim recites a graph walking system for steps walking in a directed non-cyclic graph, the pruning system can reactivate a deactivated graph observer after the sub-nodes of the encountered node have been walked, the similar limitation as recited in claim 4 of '692 Patent.

Per claim 8:

This claim recites for analyzing a graph of hierarchical data for steps a system for binding a plurality of graph observers to a graph, wherein each graph observer is further bound to a set of node patterns and a set of node observers; graph walking logic for systematically walking through nodes within the graph which steps are recited in claim 15 of '692 Patent. '692 Patent

does not recite other features recited as follows in the Instant claim. But it would have been obvious for one of the ordinary skill in the art to modify these features as modified by Tenev.

The features as follows does not recited on claim 1 of '692 Patent.

However, Tenev discloses in an analogous computer system a first pruning system that can be instructed by a node observer bound with an associated graph observer (col. 9, lines 45-46 "The routines can initially test whether the navigation signal is acceptable, in box 302"); and a second pruning system that can instruct the graph walking logic not to walk the set of sub-nodes for the encountered node (col. 9, lines 57-60 "walker routines 222 are called to perform one or more walking traversals of directed graph data structure 230, during which nodes are marked with counts to indicate that they have been walked").

The feature to instruct a pruning system would be obvious for the reasons set forth in the rejection of claim 1.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,654,761 to Tenev et al. (hereinafter called Tenev) in view of US Patent No. 6,092,044 to Baker et al. (hereinafter called Baker).

Per claim 1:

Tenev disclose:

- A graph walking system (col. 7, lines 52-53 "Walker routines" also fig. 4), comprising: a binding system for binding a graph observer that looks for matching node patterns with a graph (col. 8, lines 8-9 "data structure for mapping from a pair of node"), for binding node patterns that identify distinguishing node attributes to node observers that at least one of analyze and process a particular node to generate at least one node pairing (col. 8, lines 20-21 "Structure 250 makes it possible for every node and link in memory to be specified by an ID"), and for binding the graph observer to at least one node pattern-node observer pairing (col. 8, lines 8-10 "data structure for mapping from a pair of node to a link ID");
- graph walking logic for systematically walking through nodes within the directed non-cyclic graph (col. 9, lines 57-58 "walker routines 222 are called to perform one or more walking traversals of directed graph data structure 230");
- a pattern testing system for determining if an encountered node matches one of the node patterns (col. 12, lines 57-60 "The test in box 386 first tests the node's orient and map counts to determine whether the node was walked during the most recent orienting or mapping walk in box 306 in FIG. 7") ;

- an event manager for generating an encountered event when one of the node observers is bound to a matching node pattern (col. 12, lines 54-55 "The test in box 384 compares the last node ID with the saved top node ID"); and
- a pruning system that can deactivate the graph observer with respect to sub-nodes of the encountered node if a bound node observer determines that there is no interest in the sub-nodes (col. 14, lines 35-39 "Node removal begins when grapher routines 220 receive a call from memory management routines 226 to remove a node in box 450" also fig. 11 and related discussion) .

Tenev does not disclose deactivate the tree observer... without deleting the sub-nodes.

However, Baker discloses in an analogous computer system deactivate the tree observer... without deleting the sub-nodes (col. 11 to 12, lines 51-67 and 1-2 "the node-processing procedure determines whether the score of any state of the node exceeds the pruning threshold (step 1110). When a score exceeds the pruning threshold, the likelihood that the word represented by the score was spoken is deemed to be too small to merit further consideration. For this reason, the procedure prunes the lexical tree by deactivating any state having a score that exceeds the pruning threshold (step 1115). If every state of the node is deactivated, then the node-processing procedure also deactivates the node. The node-processing procedure may deactivate a node or state by deleting a record associated with the node or state, or by indicating in the record that the node or state is inactive. Similarly, the node-processing procedure may activate a node or state by creating a record and associating the record with the node or state, or by indicating in an existing record that the node or state is active. The procedure may use a

dynamic pruning threshold that accounts for variations in the average or best score in the lexical tree at any given time").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of deactivating the node by deleting or indicating as an inactive node or state as taught by Baker in corresponding to graph walking logic, a pattern testing system, and a pruning system as taught by Tenev. The modification would be obvious because of one of ordinary skill in the art would be motivated to mark as an deactivate node if it is not being to used in optimization process in speech recognition system as suggested by Baker (col. 1, lines 31-46).

Per claim 2:

- wherein the encountered event is handled by the bound node observer. The limitations in the claims are similar to those in claim 1, and rejected under the same rational set forth in connection with the rejection of claim 1.

Per claim 3:

The rejection of claim 1 is incorporated, and further, Tenev disclose:

- wherein the graph walking logic walks through the graph in a top down hierarchal manner (col. 10, lines 3-5 "walker routines 222 can walk upward along a path from a selected node of the tree to the root node, then walk back down the path to orient the selected node").

Per claim 4:

- wherein pruning system can reactivate a deactivated tree observer after the sub-nodes of the encountered node have been walked. The limitations in the claims are similar to those in claim 1, and rejected under the same rational set forth in connection with the rejection of claim 1.

Per claim 5:

- wherein the event manager generates a complete event for each node observer that received an encountered event and that did not cause the tree observer to become deactivated. The limitations in the claims are similar to those in claim 1, and rejected under the same rational set forth in connection with the rejection of claim 1.

Per claim 6:

The rejection of claim 5 is incorporated, and further, Tenev disclose:

- wherein the completed event can cause the graph walking logic to repeat the walk through the sub-nodes (col. 14, lines 59-61 "Then grapher routines 220 begin an outer iterative loop that goes through the node's linked list of child links, continuing until the test in box 460 finds no more child links").

Per claim 7:

The rejection of claim 1 is incorporated, and further, Tenev disclose:

- wherein the pruning system (col. 14, lines 35-39 "Node removal begins when grapher routines 220 receive a call from memory management routines 226 to remove a node in box 450") can further cause the graph walking logic to bypass walking of the sub-nodes if the graph observer has been deactivated and no other active graph observers exist (col. 9, lines 57-60 "walker routines 222 are called to perform one or more walking traversals of directed graph data structure 230, during which nodes are marked with counts to indicate that they have been walked").

Per claims 8 and 11:

Tenev disclose:

- a system for binding a plurality of graph observers to a graph (col. 8, lines 8-9 "data structure for mapping from a pair of node"), wherein each graph observer is further bound to a set of node patterns and a set of node observers (col. 8, lines 20-21 "Structure 250 makes it possible for every node and link in memory to be specified by an ID");
- graph walking logic for systematically walking through nodes within the graph (col. 9, lines 57-58 "walker routines 222 are called to perform one or more walking traversals of directed graph data structure 230");
- a first pruning system that can be instructed by a node observer bound with an associated graph observer to deactivate (col. 9, lines 45-46 "The routines can initially test whether the navigation signal is acceptable, in box 302") the associated graph observer until a set of sub-nodes for the encountered node has been walked (col. 9, lines 57-60 "walker routines 222 are called to perform one or more walking traversals of directed graph data

structure 230, during which nodes are marked with counts to indicate that they have been walked"); and

- a second pruning system that can instruct the graph walking logic not to walk the set of sub-nodes for the encountered node (col. 9, lines 57-60 "walker routines 222 are called to perform one or more walking traversals of directed graph data structure 230, during which nodes are marked with counts to indicate that they have been walked").

Tenev does not disclose deactivate the tree observer... without deleting the sub-nodes.

However, Baker discloses in an analogous computer system deactivate the tree observer... without deleting the sub-nodes (col. 11 to 12, lines 51-67 and 1-2 "the node-processing procedure determines whether the score of any state of the node exceeds the pruning threshold (step 1110). When a score exceeds the pruning threshold, the likelihood that the word represented by the score was spoken is deemed to be too small to merit further consideration. For this reason, the procedure prunes the lexical tree by deactivating any state having a score that exceeds the pruning threshold (step 1115). If every state of the node is deactivated, then the node-processing procedure also deactivates the node. The node-processing procedure may deactivate a node or state by deleting a record associated with the node or state, or by indicating in the record that the node or state is inactive. Similarly, the node-processing procedure may activate a node or state by creating a record and associating the record with the node or state, or by indicating in an existing record that the node or state is active. The procedure may use a dynamic pruning threshold that accounts for variations in the average or best score in the lexical tree at any given time").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of deactivating the node by deleting or indicating as an inactive node or state as taught by Baker in corresponding to graph walking logic, a pattern testing system, and a pruning system as taught by Tenev. The modification would be obvious because of one of ordinary skill in the art would be motivated to mark as an deactivate node if it is not being to used in optimization process in speech recognition system as suggested by Baker (col. 1, lines 31-46).

Per claim 9:

The rejection of claim 8 is incorporated, and further, Tenev disclose:

- wherein the second pruning system(col. 14, lines 35-39 "Node removal begins when grapher routines 220 receive a call from memory management routines 226 to remove a node in box 450") will cause the set of sub-nodes not to be walked only if all of the plurality of graph observers have been deactivated (col. 9, lines 57-60 "walker routines 222 are called to perform one or more walking traversals of directed graph data structure 230, during which nodes are marked with counts to indicate that they have been walked").

Per claim 10:

The rejection of claim 8 is incorporated, and further, Tenev disclose:

- a pattern testing system for determining if the encountered node matches one of the node patterns (col. 12, lines 54-55 "The test in box 384 compares the last node ID with the saved top node ID").

Claims 12, 14, 15, and 16 are the method claim corresponding to system claim 8 and rejected under the same rational set forth in connection with the rejection of claim 8 above.

Claim 13 is the methods claim corresponding to system claims 10 and 11 and rejected under the same rational set forth in connection with the rejection of claims 10 and 11 above.

Claims 17, 19, and 20 are the computer program product claim corresponding to system claim 1 and rejected under the same rational set forth in connection with the rejection of claim 1 above.

Claim 18 is the computer program product claim corresponding to system claim 7 and rejected under the same rational set forth in connection with the rejection of claim 7 above.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Satish S. Rampuria** whose telephone number is **(571) 272-3732**. The examiner can normally be reached on **8:30 am to 5:00 pm** Monday to Friday except every other Friday and federal holidays. Any inquiry of a general nature or relating to the status of this application should be directed to the **TC 2100 Group receptionist: 571-272-2100**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Wei Y. Zhen** can be reached on **(571) 272-3708**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satish S. Rampuria
Patent Examiner
Art Unit 2191

WEI ZHEN
SUPERVISORY PATENT EXAMINER